

NEW CLAIMS 35-57

35. A process for producing a component for producing polymer blends from thermoplastic starch and a hydrophobic polymer, the method comprising the steps of:

- a) providing an aqueous dispersion of polyvinyl acetate;
- b) adding a catalyst, selected from the group consisting of mono-hydroxy compounds, dihydroxy compounds, and trihydroxy compounds, to the aqueous dispersion;
- c) presaponifying the aqueous dispersion of polyvinyl acetate by adding an alkaline substance to the aqueous dispersion;
- d) providing an alkali silicate solution;
- e) reacting the presaponified polyvinyl acetate of step c) with the alkali silicate solution of step d) by adding, while stirring, the alkali silicate solution over a period of at least one hour to form organosilicates.

36. The process according to claim 35, wherein in the step c) the alkaline substance is continuously added until a degree of hydrolysis of 10 % to 40 % is reached and wherein in the step e) the reaction is carried out until a final degree of hydrolysis of 30 % to 85 % is reached.

37. The process according to claim 35, wherein a final pH of 7 to 8.5 is reached in step e) upon completion of the reaction.

38. The process according to claim 35, wherein in step c) the alkaline substance is calcium hydroxide and wherein calcium hydroxide is added until a degree of presaponification of 10 % to 40 % has been reached.

39. The process according to claim 35, wherein the catalyst is selected from the group consisting of methanol, ethanol, ethylene glycol, diethylene glycol, triethylene glycol, glycerol, and mixture thereof.

40. The process according to claim 35, wherein the catalyst is added in an amount of 0.5 % to 20 % by weight of the weight of polyvinyl acetate.

41. The process according to claim 35, wherein the step c) is carried out at a temperature of 100 °C to 160 °C.

42. The process according to claim 35, wherein the polyvinyl acetate and the alkali silicate are employed in weight proportions, based on dry weight, of 50:50 to 80:20.

43. The process according to claim 35, wherein the alkali silicate is comprised at least partially of sodium disilicate and hydroxide.

44. The process according to claim 35, further comprising the step of adding organofunctional silanes subsequent to step e).

45. The process according to claim 44, wherein the organofunctional silane is added in an amount of 3 % to 15 % by weight of the alkali silicate contained in the alkali silicate solution.

46. The process according to claim 35, further comprising the step of adding starch subsequent to step e).

47. The process according to claim 44, wherein the starch is added in an amount 5 % to 15 % by weight of the polyvinyl acetate.

48. The process according to claim 46, further comprising the step of adding vinyl acetate together with the starch.

49. The process according to claim 48, wherein the vinyl acetate is added in an amount of 0.5 % to 1.5 % by weight of the polyvinyl acetate.

50. A process for producing a component for producing polymer blends from thermoplastic starch and a hydrophobic polymer, the method comprising the steps of:

- a) providing an aqueous dispersion of polyvinyl acetate;
- b) pretreating the aqueous dispersion of polyvinyl acetate by adding a catalyst, selected from the group consisting of mono-hydroxy compounds, dihydroxy compounds, to the aqueous dispersion;
- c) providing a solution comprising alkali silicate and an alkaline substance;
- d) reacting the pretreated polyvinyl acetate of step b) with the solution of step c) by adding while stirring over a period of at least one hour the solution of step c) to form organosilicates.

51. A component for producing polymer blends form thermoplastic starch and a hydrophobic polymer, the component prepared according to the method of claim 35.

52. A component for producing polymer blends from thermoplastic starch and a hydrophobic polymer, the component comprised of:

organosilicates, formed by reacting an aqueous solution of polyvinyl acetate and an aqueous solution of alkali silicate in the presence of a catalyst, selected from the group consisting of mono-hydroxy compounds, dihydroxy compounds, and trihydroxy compounds, and an alkaline substance over a period of at least one hour, wherein the catalyst and the water of the polyvinyl acetate solution and of the alkali silicate solution are present in an amount of 35 to 40 % of the weight of the component; wherein the component has a pH value of 7 to 8.5.

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53. The component according to claim 52, wherein the polyvinyl acetate and the alkali silicate are contained in weight proportions, based on dry weight, of 50:50 to 80:20.

54. The component according to claim 52, further comprising at least one of organofunctional silanes, vinyl acetate, and starch, evenly distributed in the component.

55. The component according to claim 54, wherein the organofunctional silane is contained in an amount 3 % to 15 % by weight of the alkali silicate.

56. The component according to claim 54, wherein the vinyl acetate is added in an amount of 0.5 % to 1.5 % by weight of the polyvinyl acetate.

57. The component according to claim 54, wherein the starch is contained in an amount 5 % to 15 % by weight of the polyvinyl acetate.